



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-3A1
 UNIQUE ID NUMBER: 1GE035
 COMBUSTOR: LEC II
 ENGINE TYPE: TF

BYPASS RATIO: 6.3
 PRESSURE RATIO (π_{00}): 19.7
 RATED THRUST (F_{00}) (kN): 41.0

REGULATORY DATA

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|------|-------|-----------------|--------------|
| D _p /F ₀₀ (g/kN) or SN | 11.8 | 100.4 | 32.2 | 28.2 |
| AS % OF ORIGINAL LIMIT | 60.0 | 85.1 | 40.6 | 93.3 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 50.7 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 53.2 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 54.5 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 58.9 | |

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

| MODE | POWER SETTING (%F ₀₀) | TIME (minutes) | FUEL FLOW (kg/s) | EMISSIONS INDICES (g/kg) | | | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|--------------------------|-----------|-----------------|--------------|
| | | | | HC | CO | NO _x | |
| TAKE-OFF | 100 | 0.7 | 0.407 | 0.06 | 0.00 | 11.61 | 21.9 |
| CLIMB OUT | 85 | 2.2 | 0.334 | 0.06 | 0.00 | 10.14 | 9.2 |
| APPROACH | 30 | 4.0 | 0.119 | 0.13 | 1.90 | 6.86 | 3.1 |
| IDLE | 7 | 26.0 | 0.050 | 3.95 | 42.60 | 3.82 | 3.1 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 167 | 313 | 3350 | 1137 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX) | | | | 7.6 | 81.8 | 27.8 | 21.9 |
| SIGMA (D _p /F ₀₀ in g/kN, or SN) | | | | 0.2 | 3.3 | 1.6 | 0.3 |
| RANGE (D _p /F ₀₀ in g/kN, or SN) | | | | 7.41-7.78 | 79.2-85.5 | 26-29 | 21.7-22.2 |

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|---------------|
| BAROMETER (kPa) | 101.6-102.9 |
| TEMPERATURE (K) | 275.5-281.1 |
| ABS HUMIDITY (kg/kg) | 0.0016-0.0039 |

FUEL

| | |
|----------|------|
| SPEC | JP-5 |
| H/C | 1.92 |
| AROM (%) | 20.3 |

MANUFACTURER: General Electric Company
 TEST ORGANIZATION: General Electric Company
 TEST LOCATION: Lynn Cell 121
 TEST DATES: 21/03/1991-23/03/1991

NO_x REGULATION PARAGRAPH

| | |
|---|-------------------|
| | 2.3.2 c) (CAEP/4) |
| | 2.3.2 d) (CAEP/6) |
| x | 2.3.2 e) (CAEP/8) |

REMARKS

1. Ref GE Report R91AEB051 (1/92 rev).
2. Engine S/N 807-005.
3. LEC II combustor.
4. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
5. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e)

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)